

[login](#)[bloggers](#)[about us](#)[News overview](#)[City](#)[To undertake](#)[Culture](#)[Politically](#)[Portraits](#)[City agenda](#)

[News overview](#) > [To undertake](#) > In Pictures: Henk Holtslag, initiator of the SMART Center Group

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[In picture](#)[Portraits](#)

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By [Ben Eggermont](#)

Henk Holtslag is the man behind the SMARTechs concept and the resulting Smart Center Group. The group's goal is to make smart, market-oriented, affordable and maintainable technologies available in developing countries. It concerns technology for water, sanitation and hygiene.



turned out to be a complete failure. This was due to two things: first, the technology was too complicated, and second, the mills were far too expensive for the local farmers. They cost \$ 5,000 at the time.

Out of frustration I started looking for other technology and I was lucky that the rope pump had just been introduced in Nicaragua. A rope pump is a very simple water pump. You operate it by hand, you turn a wheel and via a rope with pistons you can pump the water up from a well. That pump cost \$ 120 and is made with local materials. That has been a success. ”

How did that develop further?

“We lived in Nicaragua for a total of 11 years. The seven years after the windmill project I spent setting up the company AMEC and helped train other companies in making various types of rope pumps. Now more than 70,000 rope pumps have been produced by 10 companies that all did this independently. The SMART concept was actually developed on this basis. SMART stands for Simple, Market-based, Affordable, Repairable Technologies.

So simple locally produced technology that is focused on the market, on what people can pay themselves in order to become less dependent on donations. In the meantime, we had a dozen other techniques such as manual well drilling, cheap rainwater tanks, household water filters and the like that can be made with local materials. We continued this concept with colleagues in Africa around 2000, first in Tanzania, then in other countries. I did that as an independent advisor with funds from the Netherlands and other countries. Rotary club het Loo from Apeldoorn, for example, has sponsored a lot for the SMART Center in Malawi. ”

“Earning money is the best guarantee that actions continue when the counselor leaves.”

How did the SMART Centers arise from this?

“In 2005, the idea came to make the training courses structured and after a large Dutch water project in Tanzania, a SMART center in Mzuzu, a water training center, continued after the project ended. So Dutch development aid has worked well there. The people trained in well drilling and pump production continued after the project ended. After the center in Tanzania, it also started in Malawi, Mozambique and Zambia.



so continue after the training. Rural families and farmers earn because with their own well at home they have to walk less to get water, the water is used for household, livestock watering or small-scale irrigation. The result, more income and more food. The key word in this approach is; profit. Earning money is the best guarantee that actions continue when the counselor leaves. ”

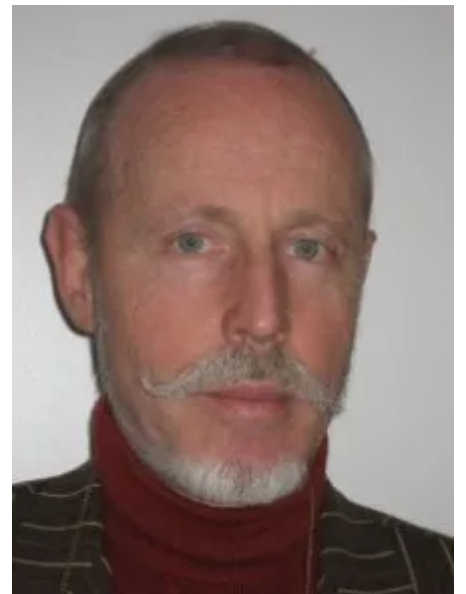
What is the position of the local government in this?

"We try to work with the government there as much as possible so that it fits in with government policy. That is not easy everywhere. Many governments have a focus on water supply systems for cities and less for the countryside. For the rural water supply, hand pumps are imported from Asia or Europe. Making something local is not always seen as good quality. With examples, we want to prove that, if people are well trained, the quality of local drill sets and hand pumps can be good and usable in areas without rocks and water at 40 meters or less.

One country has more vision than the other. For example, the government in Ethiopia clearly sees the potential of local water production techniques. It is now even a national policy to use rope pumps for smaller villages and families, while that in Tanzania, where we have been working for 15 years, is still problematic. The local authorities there often agree with it, but the national government has not yet accepted the rope pump as a standard pump. Another reason, which you should not say out loud, is that in projects with imported pumps, something often 'disappears' under the table. It is much more difficult if pumps are made locally. ”

About Henk:

- **Born:** 17-07-1949 in Dalfsen
- **Parents:** Betsy Klink, Hent Holtslag. Farm in Dalfsen
- **Brothers-Sisters:** 6 brothers, 4 sisters
- **Married:** with Gerda Dapper
- **Most proud of:** Our 2 children
- **Inspired by:** Visionaries like Schumacher (Small is beautiful), Herman Wijffels, Willy Brandt
- **What she Dislikes:** Clean up
- **Loves:** Making technology easier. Pass on knowledge to learn to row with the oars they have
- **Which book is on your bedside table:** None
- **What can they wake you up for at night:** Strawberries with whipped cream





ladder. If you have nothing, start with a hand pump and if you have a little more money, switch to water or an electric or solar pump.”

What are the most important achievements of the group in retrospect?

“The water training centers have ensured that more than a million people have more and better water with rope pumps. More importantly, it continues. In 5 countries there are more than 50 companies that continue independently without outside help. They have been supervised for a few years and now they can do it themselves.”

"Aid that structurally brings about something is complicated."

You have gained a lot of experience in developing countries through the Dutch Volunteer Foundation. Can you tell us about that?

“I worked in 2 SNV projects: 45 years ago in Tanzania fishing to train people to maintain fishing boats. And 10 years later in Nicaragua for the windmill project. One of the lessons is that giving good help is not easy. Aid that structurally brings about something is complicated. It really takes a lot of experience. For example, we now see that you also have to work via and with the private sector. Strengthening the local economy, making money. An open door, but a major problem for poor people is that they have no money and can help aid economic development. Aid to the private sector was a curse word in development aid 40 years ago.”

Could you combine the work with a more or less normal family life?

“We went to Nicaragua in 1987 with 2 children. They were then 1.5 and 3 years old. I was working a lot and my wife [Gerda Dapper](#) did most of the upbringing. She taught Dutch to our and other children there and set up a Dutch school, among other things. Our children have had a trilingual education. They learned English at school, at home we spoke Dutch and on the street it was Spanish.”

"The larger the income differentials, the stronger the tensions in society with all the consequences that entails."



income differences, the greater the tensions in society with all the consequences that entails. For example, the only real, if long-term, solution to the refugee problem from Africa seems to be economic development and employment there. ”

It is corona crisis. What is the influence of this on the current work of the group?

“The corona crisis makes it clear once again how important access to water is for hygiene, washing hands, but also for sanitation. If the costs of relevant techniques become lower, more people can be provided with the same (aid) money, but more people can also pay for it themselves. The costs of many techniques can be reduced by local production. Due to travel restrictions, the training centers are almost standing still. However, we are busy making manuals for, among other things, making a simple hand washing system and making soap yourself; with roasted banana peels, oil and water. ”

"If the minister says to wash your hands, it makes more of an impression than if someone from UNICEF says the same."

Traveling is no longer possible for the time being. Does that hinder you in your activities?

"Yes, I would go to Malawi for training next month, but that is canceled. We are now exchanging ideas via the internet to prevent the spread of the virus as much as possible. This can be done through information on local, cheap techniques, but also through ideas, for example. For example, by training religious leaders, knowledge about local solutions can be disseminated. For example, if the minister says to wash your hands, it makes more of an impression than if someone from UNICEF says the same. The concept of 'Faith & water' is implemented in Malawi. ”

How do you look back on your working life yourself?

"We have achieved a lot, but it is only a drop. There is so much more possible. Although I am retired, I hope that I can continue to pass on knowledge and experience for a long time. I also work through the [Smart Center Foundation](#). For raising funds to continue and expand the work of the SMART centers. When I look back and have to give an example, I think of Laban Kaduma from Tanzania, trained 14 years ago. When he started training he had a bicycle and a shovel and with that he made hand-dug wells. Now he has 4 drilling teams in service, 2 cars and already drilled 3000 wells with manual drilling technique. I am proud of him. I also

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A few more films that illustrate the work of Henk Holtslag: